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Response to FOA dated 5/16/2006
Response dated 7/14/06

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REMARKS

This reply is in response to the Final Office Action dated May 16, 2006. Claims 1-3, 5-6, 8-18, 20-21, and 23-40 are pending in the application and stand rejected. Applicant has amended claims 10, 14 and 32 by canceling the butyl-type rubber species therefrom, and presented new claims 38-40 which correspond to claims 10, 14 and 32 rewritten with the non-butyl-type rubber species canceled therefrom, as shown above. Such amendments are supported in the written disclosure of the specification including the claims, and thus do not add new matter. The amendment of the claims after final does not raise any new issues, and places the claims in condition for allowance and/or better form to clarify the issues for appeal. Entry of the foregoing amendment after final and reconsideration of the claims are respectfully requested.

The action rejects claims 10, 14, 18, 31 and 32 under 102(b) in view of WO 01/48033. WO '033 is the publication of applicant's priority application, but the action asserts that the disclosure of the priority document (the same as WO '033) does not support the written description requirement needed for these claims, and thus these claims are not entitled to priority. Further the action asserts that WO '033 suggests the butyl rubber species listed in the Markush groupings in these claims.

With respect to claim 18 reciting at least 80% isobutylene in the isobutylene based rubber, the action appears to overlook the disclosure in WO '033 at page 20, claim 12. Applicant clearly had possession of the claimed invention as disclosed in the priority document. Alternatively, if applicant is not entitled to this disclosure, then WO '033 could not have taught or suggested the subject matter of claim 18.

With respect to the butyl-type secondary rubber species in claims 10, 14 and 32, these species have been canceled and presented in corresponding new claims 38-40. Claims 10, 14 and 32, as amended, are thus not anticipated by WO '033; and claims 38-40 are either entitled to priority or are not anticipated by WO '033. Moreover, claims 10, 14 and 32 are dependent claims, and are therefore novel and patentable if the base independent claim is allowable. On the other hand, arguendo, to the extent WO '033 would anticipate claims 10, 14 and 32, as

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amended, applicant has priority to WO '033 and is only required to swear behind WO '033 for what it teaches. See MPEP 715.02. To the extent the WO '033 disclosure "suggests" any species in claims 10, 14, and 32 and/or 38-40, applicant has also shown priority to these obvious variations. *Id.*

With respect to claim 31 reciting that the second rubber blend "further comprises" EPDM rubber, WO '033 discloses EPDM in the butyl rubber blends, e.g. page 2, lines 3-7, and compound 9 in the examples. Alternatively, if applicant is not entitled to the benefit of this disclosure, Costemalle '662 is cumulative to the EPDM disclosure seen in WO '033 and the purported combination of references would not have taught or suggested the subject matter of claim 31.

The other primary rejection in the action applies Costemalle '662, Elspass and the Polymeric Materials Encyclopedia entry by Dias (Dias). As understood, the action asserts that Costemalle '662 discloses the claimed halogenated isobutylene-co-alkylstyrene polymer in tire innerliners, whereas Elspass and Dias are applied to allegedly show only that the skilled artisan would have understood inner tubes and innerliners to have "similar functional requirements."

Respectfully, applicant submits that the suitability of a rubber formulation for tire innerliners does not suggest that it will work with equal success in inner tube formulations. For example, tire innerliners and inner tubes both require low permeability to retain air, but tire innerliners are fused or molded (co-vulcanized) directly to the tire casing, whereas inner tubes are separate and must remain separable, i.e. innerliners stick to the tire whereas inner tubes must *not* stick to the tire. Therefore, adhesion of a rubber used as an innerliner is not necessarily a disadvantage, but is disastrous in the case of a tube which cannot as a result of fusing to the tire be separated from the tire for replacement or repair.

Paragraph [0028] in the specification discusses the undesirability in an inner tube of increased adhesion or a tendency to co-cure with halobutyl innerliners. Paragraph [0003] notes that inner tubes of butyl rubber and halobutyl rubber do not have the proper properties

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and as a result can degrade, lose air, and become sticky, adhering to the tire, and thereby preventing the removal of the tube from the tire and retreading of the tire.

The inner tube and tire innerliner applications are admittedly similar in certain respects, but markedly different in others, defying any reasonable expectation of successful interchangeability, let alone improved performance.

Costamelle '662 discloses tire innerliners from Exxpro™ rubber, but does not mention or suggest inner tubes made from blends with another rubber component. While Costamelle '662 teaches that secondary rubber may optionally be blended into the Exxpro™ rubber formulations which strongly adhere to the tire casing for innerliner applications, Costamelle '662 does not in any way suggest blends of as little as 15% Exxpro™ rubber with secondary rubbers can be used in inner tube formulations that will not stick to the tires in which they are used, when the secondary rubber may not work by itself as an inner tube. At best, the combination of references cited would only have made the invention claimed herein 'obvious to try' which is not the appropriate standard under 103(a). See In re O'Farrell, 853 F.2d 894, 903 (Fed. Cir. 1988). However, the skilled artisan could be presumed to be familiar with the prior art problems with inner tubes using applicant's secondary rubbers, and thus would not have had any expectation of success for applicant's approach.

Dias says only that butyl rubbers in general are used in inner tube formulations, and thus, at best, is merely cumulative to applicant's disclosure in the specification at paragraphs [0003] through [0010] and [0028], addressed above. Dias has some discussion on membranes used in curing equipment and processes, such as tire curing bladders. However, prior art must be taken as one skilled in the art would have understood it, without the impermissible application of hindsight to read applicant's invention into the references. (See MPEP §§ 2141.01 III. & 2142). The passage in Dias is not a reference to a tire inner tube, and instead refers to a bladder used with tire curing presses to make the tire, not at all to inner tubes used in tires for transportation vehicles.

ElsPASS was addressed in the previous response, and the final action does not appear to take issue with applicant's comments in this regard. However, the final action emphasizes

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that Elspass was cited only to show that tire innerliner compositions allegedly suggest tire inner tube compositions. In this regard, like Dias discussed above, Elspass is at best cumulative to applicant's own disclosure of the prior art problems in the use of butyl rubbers in inner tubes. Elspass provides no further teaching or suggestion of a reasonable expectation of success in employing the claimed halogenated isobutylene-co-alkylstyrene polymer/second rubber blends in inner tubes in a tire. Elspass does not teach, show or suggest the claimed invention, and fails to bridge the gap from Costemalle '662/Dias to applicant's claimed invention. At the very least, Elspass does not teach or suggest the results to be expected of an inner tube comprising specific amounts of the halogenated isobutylene-co-alkylstyrene polymer or the halogen present in mol% relative to the total amount of the polymer, as required in every claim. Withdrawal of the rejection and allowance of the claims is respectfully requested.

Having addressed all issues set out in the office action, Applicant respectfully submits that the pending claims are now in condition for allowance. Applicant invites the Examiner to telephone the undersigned attorney if there are any issues outstanding which have not been addressed to the Examiner's satisfaction. It is believed that no petition for extension of time for filing this response is required; however, in the event that such a petition is required, the Commissioner is hereby authorized to charge counsel's Deposit Account No. 05-1712, for any fees, including extension of time fees or excess claim fees, required to make this response timely and acceptable to the Office.

Respectfully submitted,

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Date

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